

# Sisters in STEM

Inspiring the  
next generation of  
women in STEM.

Be part  
of our story.

[#ExperienceCGI](#)







# Every team member is a stakeholder

When you join our team you become a member of the company, not just an employee. That's not all that sets us apart, we work on projects that transform lives, every day. So if you've ever considered a career in STEM (Science, Technology, Engineering and Mathematics), consider this: our supportive team, meaningful work and empowering environment can make it happen and take you on the journey of a lifetime.





# Our mission

We are an established and growing company that offers the opportunity to work on some of the most exciting technology projects – so this is the place to build your future.

We're passionate about diversity, inclusion and development, so we're particularly keen to help ambitious and capable women launch fast-moving STEM careers.

Recent research found 78% of students couldn't name a famous female working in tech<sup>1</sup>. In previous years, similar research found around 60% of young women said they could only identify Marie Curie as an inspiring female role model in STEM<sup>2</sup>. However, there have been countless women whose discoveries have shaped the technology we know today.

[Source 1 here](#)

In this brochure we will share the stories of just some of these female pioneers. We hope their careers and achievements will help you bring your own dreams to life. We believe your ideas have the power to transform – so get inspired and see how we can help you and the next generation of women in STEM to revolutionise the industry.

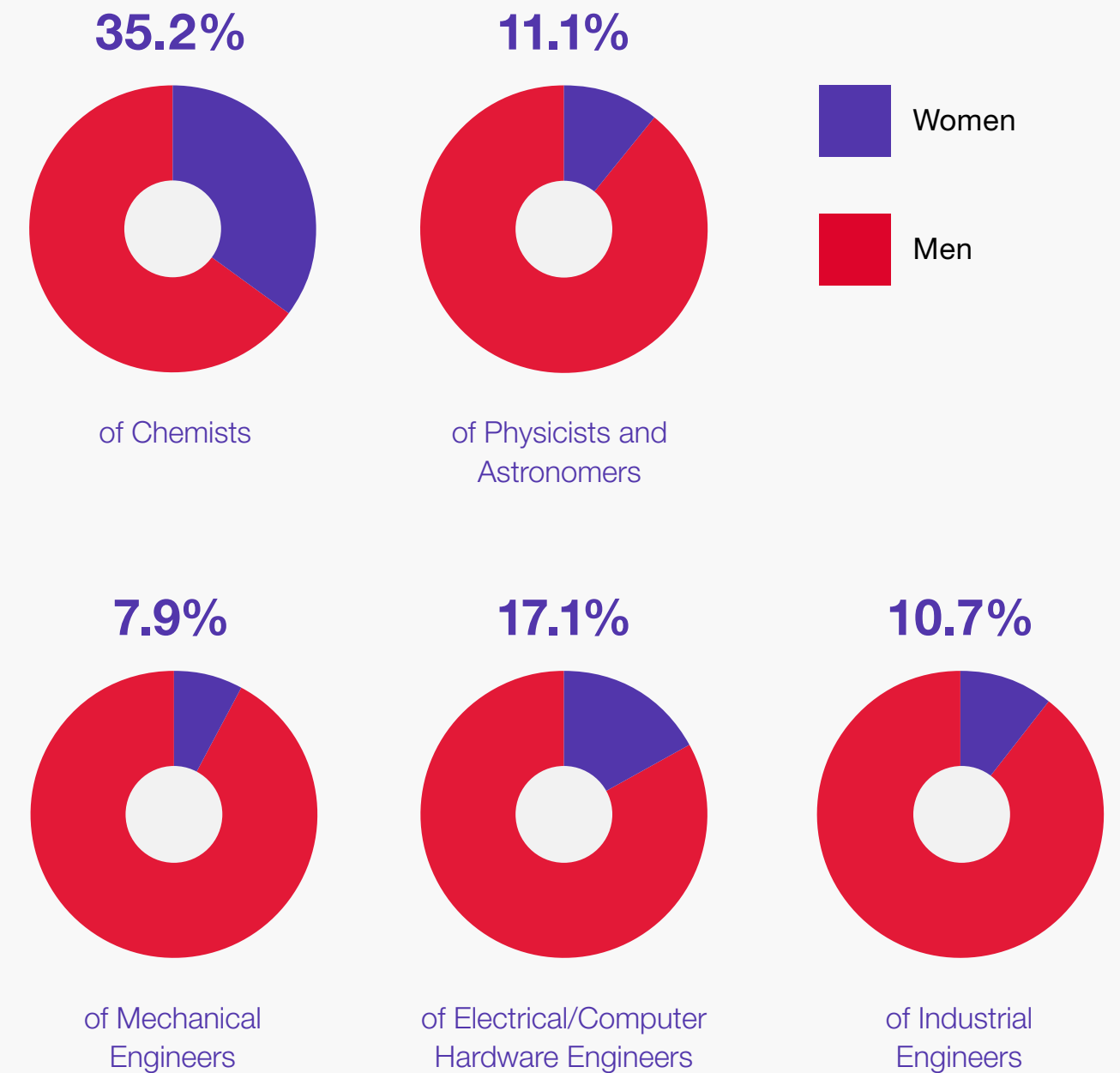
[Source 2 here](#)



# How many women work in STEM?

Throughout history women have been under-represented in STEM. Since the mid-twentieth century more women have taken up STEM careers, but as the charts below make clear, the figures are still too low.

We think this isn't good enough. We want you to join us in transforming STEM and the wider world.



[Statistics here](#)

# The future of STEM is female

We believe that women are the future of STEM, because only by harnessing talent across genders, cultures and continents can we solve the problems facing our planet. Whether you're a school leaver or university graduate, we can help you make

your mark in STEM. When you join us, your ideas will have the power to transform. We're one of the world's largest IT and business process services providers, revolutionising the way companies deliver their products and communicate with their customers.

## School Leavers

You can be part of everything we do, developing the skills and understanding you'll need for a career in IT through training and hands-on experience.

## Graduates

You can make an impact on the world as part of a growing company with the scale and strength to give your career the best possible start.

## Our Dream

To create an environment in which we enjoy working together and, as shareholders, build a company everyone can be proud of.

## Our Vision

To be a world-class IT and business process services leader that helps our clients get ahead.

# Why working at CGI is different

Our membership culture, where we support every team member to become a shareholder, makes us different from other employers. When you have a stake in the business its growth mirrors yours. So we'll help you take your career to the next level by:

- Investing in your training and development
- Helping you gain formal qualifications
- Giving you work you find enjoyable and stimulating
- Supporting you through the good and bad times in your life

As part of the world's fifth-largest independent IT consultancy, our people benefit from exceptional prospects and job security. We're here for the long term.

## We'll always recognise your contribution

We are a certified Top Employer by the Top Employers Institute, which recognises our commitment to rewarding and developing talent. We have also been

recognised by the CIPD (Chartered Institute of Personnel and Development), having been awarded Best Health and Wellbeing Initiative for our Oxygen programme and TARGETjobs, which gave us the Best School Leaver Programme award.

## Award-winning women

Our members have won their fair share of awards too. Tiffany won the Apprentice Award at the Everywoman 2019 Awards. Meanwhile, Ellie won Apprentice of the Year, and said:



STEM careers are a possibility for everyone, regardless of gender, age or background. CGI gave me the opportunity to pursue a STEM career and study IT at university, despite having no previous experience, having studied Literature, Law and History at college. With support, I've been able to explore areas of the tech industry I never could have imagined, and I can't wait to learn more."

## Our President – Tara McGeehan

### United Kingdom and Australia Operations

Tara was appointed President of CGI's UK Operations in January 2018, and added Australia operations to her responsibilities in May 2019, where she leads a team of approximately 6,000 professionals and consultants who bring all of CGI's end-to-end capabilities and industry and technology expertise to clients across these regions.





# Your questions answered

## Q Do I have what it takes to build a career in STEM?

A Of course you do! Provided you can think clearly and analytically, we will give you all the training you need to release your potential.

## Q So how do I apply?

A Whether you're a school leaver or university graduate, you can apply online. It's really easy – just upload your CV and answer a few questions to test your capabilities and we'll be in touch.

## Q What happens after I apply?

A If your application is successful you'll be invited to an Assessment Centre. You'll get to meet lots of other applicants and probably make some new friends. You'll also get to participate in a group exercise, a written test and an interview to see whether you have the skills and personality we're looking for.

## Q Wow, I received an offer! What now?

A Once you've accepted your offer we'll invite you to an Induction Day. This is your chance to meet your new colleagues, understand what we're all about and ask important questions before your first day.

## Q What will my first day be like?

A Busy and fun! We'll introduce you to your buddy who will support you in settling in and you'll get your equipment – then your comprehensive training will begin!

## Q What will happen over my first three months?

A You'll spend most of this time finding your feet. That doesn't mean you'll just be completing your training – far from it. By this stage you'll have created your personal development plan and will be ready for a progress review at which we'll give you feedback and answer any of your questions.

## Q What happens over the next three months?

A By now you will have learned lots about the company and our clients. At the end of six months you'll have another review to discuss your personal development plan and your progress towards achieving your goals.

## Q How good will my training be?

A How good does it get? Our 24/7 training website means you can learn whenever you want and we'll make sure we rotate you across the company so you can gain knowledge of everything we do. Our flat structure means you'll work alongside business leaders from day one and participating in live projects will make everything really exciting.

## Q What is the benefits package like?

A In a word – amazing! You can expect a pension plan, share purchase plan, member discount scheme, insurance packages, childcare vouchers, flexible holidays and great social facilities including a sports club. We'll make sure you stay happy and healthy via medical and dental cover, with trained mental health first aiders on hand too.

## Q But do I really have what it takes to build a career in STEM?

A There's only one way to find out – apply to us and we'll take things from there. It could be the journey of a lifetime when you get to #ExperienceCGI.

# What our members say



“I thought at the age of 18 everyone would disregard me, but that wasn't the case at all! I was accepted as part of the team very quickly and everyone was so kind and helpful to get me settled in. I'm really excited in my role now – I know there's nothing that can stop me! I can actually picture my career progression and being able to plan this is thrilling.”

– Tara



To any girls about to apply, my advice would be – don't be nervous. Just try your best, network and don't be scared to ask questions!”

– Nabilah



The online application was easy. The questions asked at this point were good, because it wasn't just uploading a CV – there was a chance to explain yourself and stand out.”

– Caroline



I was nervous applying to CGI, but I found the application process very straightforward. It was clear what I should expect at each stage of the process. The feedback I received after the assessment centre was the most in-depth I had received from any company and was extremely helpful.”

– Millie

“I found it easy to integrate into the CGI team. The members here are really welcoming and everyone is treated the same. We need brilliant scientists, engineers, mathematicians and technologists to address the problems our planet faces and create a better future – and to do so we must unlock the potential in all our children.”

– Hannah



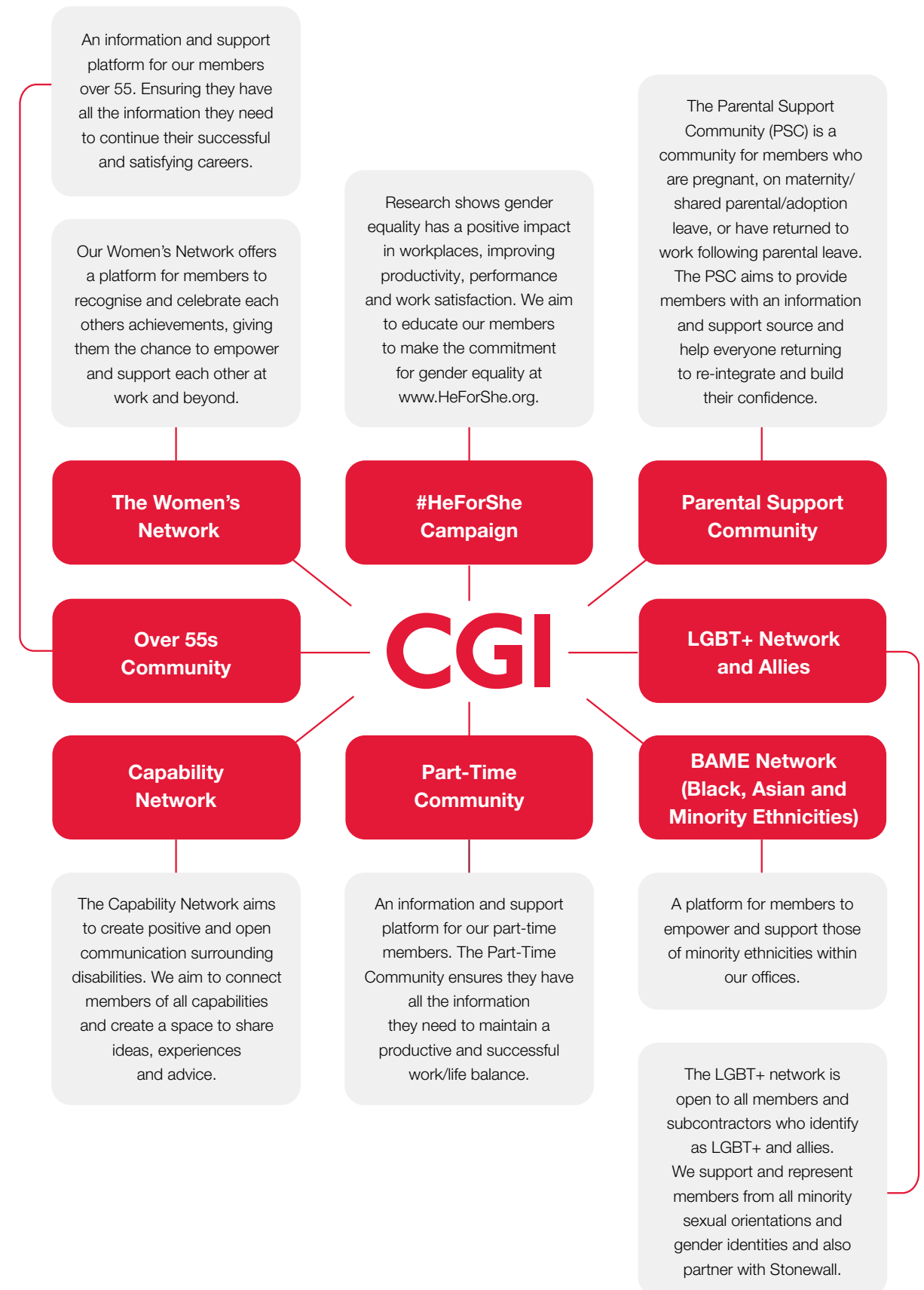
# Our networks will give you all the support you need

Diversity is central to everything we do. We believe that only by bringing together the finest minds and people with the most varied perspectives, can we create lasting solutions to the technology challenges facing our world today.

That's why we have specialist networks to support all our members – whoever they may be. They're here to make you feel at home from your first day and to encourage you to tell us what kind of company you'd like us to be.



# Our Diversity and Inclusion Committee Networks





# Our Diversity and Inclusion Committee Schemes



# What our members say

“

The application process was fairly straightforward and easy to go through. If I was to go back to when I started and give myself advice for my first day, it would be don't be nervous. You are entitled to people's help and time as a student. Don't hesitate to ask for help.”

– Raidah

“

If I was to give any female student advice before applying to CGI, it would be to put yourself first. Just relax and take any opportunity you can. You don't need to prove anything, just trust yourself.”

– Becky

“

After my successful application, I was invited to the Assessment Centre day, which I found really interesting. It provided an insight into life at CGI and a full-time job. It helped me understand how the company worked and how I would fit into CGI.”

– Emma

“

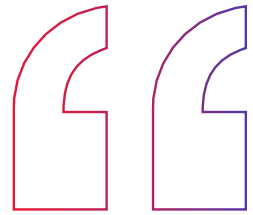
Once I started here, everyone was accommodating and welcoming. When I started my project, everyone helped me get up to speed and they were always willing to help me. Because of this, I settled in really quickly. I also attended a few socials, which was a nice way to meet people. One was an SSC event and the other was a Christmas event.”

– Shannon





# A day in my life



Hi, I'm Abbie and this is my CGI story.

After studying English Literature at University, I joined CGI's Space, Defence and Intelligence team last October. That was quite a leap, as I was originally considering a career in publishing. I'd heard of CGI, so after researching the company I contacted the careers team about graduate positions. They were really helpful, and the whole process was amazingly quick – I had my interview in August and received my offer in under two weeks. So what's my typical day at work like?

## The work is really varied

I'm currently bringing our past project documentation up to date, which draws on the editing skills gained during my degree. Usually, I'll spend time during the morning liaising with the project owners via email and telephone.

There are often many meetings during my day, including a monthly team meeting – most are in person but some people dial in from other offices.

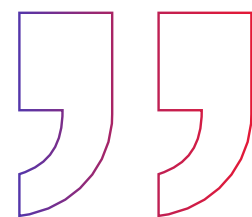
There's a real team ethos here, so I really enjoy these catch-ups.

Another regular responsibility is to sit in on graduate interviews to help answer any questions the candidate may have. I really enjoy these too as that was me not so long ago! I'm also working on my voluntary Student Kickstart Initiative project which requires extra research and networking. Most of the time I leave work at 5.30, but occasionally I stay a little later in order to get a project finished.

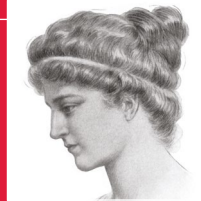
## There's plenty to do after work as well

My boyfriend and I moved when I took on the job, so we still feel like we're experiencing a new city. My commute is fairly short at about 40 minutes, leaving us plenty of time to go out after dinner – either for a walk or to meet friends.

Talking of friends, the social life at work is great. CGI has its own Sports and Social Club, and every office holds regular social events. This could be anything from our own version of 'Bake Off' to board games at lunchtime. We recently held an Easter egg hunt which was a fun way to get to know people. Pretty much every office has a football team and there are also clubs for tennis, badminton, yoga, bowling, cinema trips and murder mystery dinners – you name it!







**Hypatia, C360-415**  
**Mathematician, Astronomer, Philosopher, Advisor and Teacher**  
 A **pioneering philosophy and astronomy teacher** in Egypt, who guided students from all over the planet. She also constructed astrolabes and hydrometers – tools that are still used today.

## Bringing the next generation of women into STEM

The good news is that the number of women applying for STEM courses and careers is increasing rapidly. You'll be following in some impressive footsteps. Throughout history women have made leaps and bounds within STEM. Here are just a few of the women whose contributions shaped the world we know today.



**1600s**  
**Maria Sibylla Merian, 1647-1717**  
**Naturalist and Scientific Illustrator**  
 One of the first naturalists to observe insects closely and record them via illustration. **She published two books containing over 50 images each documenting metamorphism in 186 insects**, including the discovery of many new facts.



**1700s**  
**Émilie du Châtelet, 1706-1749**  
**Natural Philosopher, Mathematician, Physicist and Author**  
 After studying astronomy, **she translated and commented upon Isaac Newton's Principia**. Published after her death in 1759, this remains the standard French translation. A main-belt planet and crater on Venus have been named in her honour.



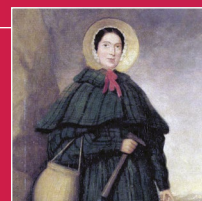
**1750s**  
**Marie-Sophie Germain, 1776-1831**  
**Mathematician, Physicist and Philosopher**  
 Recognised as a **pioneer of number theory and elasticity theory**, she became the first woman to win the grand prize from the Paris Academy of Sciences.



**Maria Gaetana Agnesi, 1718-1799**  
**Philosopher and Mathematician**  
**The first woman to write a mathematics handbook**, *Analytical Institutions for the Use of Italian Youth*, and the first woman appointed as a maths professor by a university. In 1996, crater 16765 and the Agnesi crater on Venus were named after her.



**Jeanne Villepreux-Power, 1794-1871**  
**Marine Biologist**  
 After a glittering career as a dressmaker, she developed a passion for natural history and particularly marine observation. **She was the first female member of the Catania Accademia Gioenia** and is credited with developing sustainable aquaculture principles.



**Mary Anning, 1799-1847**  
**Palaeontologist**  
 Anning grew up selling fossils along with her family, and **in 1812 discovered the first ichthyosaur**. She also discovered a five-metre plesiosaur in 1820 and a pterosaur in 1828, among many other fossils. In 2010 the Royal Society added her to its list of British women who influenced the history of science.



**1800s**  
**Ada Lovelace, 1815-1852**  
**Mathematician and Computer Programmer**  
 Daughter of Lord Byron, **Lovelace created the first algorithm for Charles Babbage's Analytical Engine** – effectively the world's first computer. As such, she is recognised as the mother of programming.



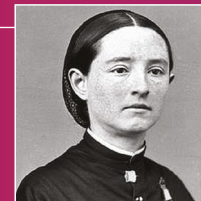
**Maria Mitchell, 1818-1889**  
**Astronomer**  
 At the age of 12, she helped her father calculate the timings of a solar eclipse, and went on to a future calculating sunspots. In 1847, **she discovered what is now known as Miss Mitchell's Comet** and became the first woman to be elected into the American Academy of Arts and Sciences and the American Association for the Advancement of Science.



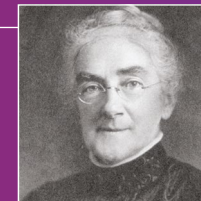
**Elizabeth Blackwell, 1821-1910**  
**Physician**  
 Inspired to study medicine after caring for a family friend, Blackwell was rejected from numerous medical schools due to her gender. Eventually accepted by Geneva Medical College, **she became the first woman to gain a medical degree in the USA** and went on to found the New York Infirmary for Women and Children.



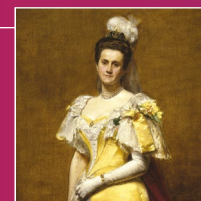
**Florence Nightingale, 1820-1910**  
**Nurse**  
 Considered the founder of modern nursing through her work in the Crimean War, **Nightingale paved the way for modern hospital cleanliness**. The statistics she produced to support her recommendations shaped the curriculum for today's nurses.



**Mary Edwards Walker, 1832-1919**  
**Surgeon**  
 Fascinated by her father's medical textbooks, Walker worked as a teacher to pay for medical college. **She volunteered as a surgeon during the American Civil War and became the only woman to receive the Medal of Honour**.



**Ellen Swallow Richards, 1842-1911**  
**Industrial and Safety Engineer**  
 The first woman to gain a chemistry degree in the USA, **she became Instructor in Sanitary Chemistry at MIT Lab**, where she was a pioneer in sanitary engineering and domestic science. She is recognised as the founder of home economics and the first person to recognise the link between chemistry and nutrition.



**Emily Roebling, 1843-1903**  
**Engineer**  
 Married to civil engineer Washington Roebling, **she played a central part in the construction of the Brooklyn Bridge**. Gaining extensive engineering knowledge, she dealt with politicians, builders and other stakeholders. The bridge was successfully opened in 1883.



**Mary Putnam Jacobi, 1842-1906**  
**Physician**  
**The first woman to graduate from an American school of pharmacy**, she went on to become a doctor at the Female Medical College of Pennsylvania. She then became the first woman to study medicine at the University of Paris before founding the Women's Medical Association of New York City.





**Hertha Ayrton, 1854-1923**

**Engineer**

After studying mathematics at university, she became a teacher to fund her research, much of which was published in *Mathematical Questions and Their Solutions*.

**In 1902, she published *The Electric Arc*, for which she was awarded the Hughes Medal by the Royal Society.**



**1850s**

**Sophie Kovalvskaya, 1850-1891**

**Mathematician**

Since women could not attend university in Russia, Kovalvskaya learned mathematics and physics in Germany. She contributed significantly to research in partial differential equations and mechanics, **and was the first woman to gain a doctorate in mathematics.**



**Mileva Marić, 1875-1948**

**Mathematician**

She was in the same class as Albert Einstein at Zurich Polytechnic, and went on to marry him, but they divorced in 1919. **She is believed to have assisted extensively with his research**, but the full extent of her contributions has never come to light.



**Lillian Gilbreth, 1878-1972**

**Industrial Engineer and Psychologist**

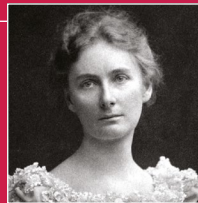
Working as an engineer and gaining a PhD in psychology, she applied her unique combination of expertise to pioneer industrial and organisational psychology. Her studies focused on time, motion and fatigue, domestic management and home economics. **Her activities (and thirteen children) inspired the film *Cheaper by the Dozen*.**



**Nettie Stevens, 1861-1912**

**Geneticist**

After completing her four-year university course in two, she researched multicellular organisms and reproductive cells, **leading to the discovery of the X and Y chromosomes.**



**Florence Bascom, 1862-1945**

**Geologist**

The first woman to receive a PhD from Johns Hopkins University, she researched acidic volcanoes and cycles of erosion. **In 1896, she became the first woman to work for the United States Geological Survey.**



**Alice Evans, 1881-1975**

**Microbiologist**

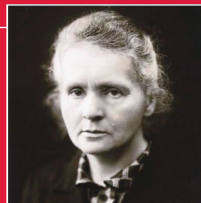
After becoming bored with her career as a teacher, Evans gained a degree in bacteriology. **She went on to become the first woman to hold a permanent position at the US Department of Agriculture**, where she investigated bacteriological contamination in milk. Her findings led to pasteurisation in 1930.



**Lise Meitner, 1878-1968**

**Physicist**

Studying in Berlin under Max Planck, she became his assistant and discovered isotopes. As a Jew, Meitner was forced to emigrate following the Nazis' rise to power, though **she provided the calculations for 1938 nuclear fission experiments in Berlin.**



**Marie Curie, 1867-1934**

**Physicist**

The most recognised female scientist, she was the first woman to win a Nobel Prize, the only person to win twice, and the only person to win in two categories. **Her research on X-rays and radioactivity shaped the entire discipline today**, but also led to her death due to radiation exposure.



**Annie Jump Cannon, 1863-1941**

**Astronomer**

Working closely with Edward C Pickering at Radcliffe College, she catalogued the development of contemporary stellar classifications. Along with Pickering, **she is credited with the creation of the Harvard Classification Scheme**, and by the end of her career had classified a record breaking 350,000 stars.



**Emmy Noether, 1882-1935**

**Mathematician**

After qualifying as a language teacher, Noether decided to focus her future on mathematics. Whilst teaching at Göttingen University, **she proved her theory (Noether's theorem) showing that conservation law is associated with the symmetry of a physical system.**



**Alice Ball, 1892-1916**

**Chemist**

Graduating in both chemistry and pharmaceuticals, she was offered numerous scholarships but chose the University of Hawaii for her master's. **Developing an injectable form of chaulmoogra oil to treat leprosy**, she was the first woman and black American to leave the University with a master's degree.



**Alice Hamilton, 1869-1970**

**Physician**

After graduating in medicine, Hamilton was a successful bacteriologist at the Memorial Institute for Infectious Diseases. **Her research focused on occupational illnesses and the effects of industrial and chemical materials, leading to today's health and safety culture.**



**Mary Agnes Chase, 1869-1963**

**Botanist**

Specialising in grass studies, **she became a botanical assistant at the Field Museum of Natural History**. Later, she was a senior botanist at the Smithsonian Museum, and during her life was closely involved with the Suffrage Movement, for which she was arrested and launched a hunger strike.



**Irène Joliot-Curie, 1897-1956**

**Scientist**

Marie Curie's daughter excelled in maths and science, and assisted her mother in conducting X-ray examinations. She later built on her parents' discoveries by **creating artificial radioactivity alongside her husband**. They were awarded the Nobel Prize in Chemistry, making the Curie family the most awarded ever.



**Gerty Radnitz Cori, 1896-1957**

**Bio-chemist**

Alongside her husband Carl, **she discovered that glycogen broke down into lactic acid within muscle tissue, creating a stored energy source**. The Cori Cycle, proposed in 1929, won the couple the 1947 Nobel Prize, making her the first American woman to win a Nobel Prize in science.

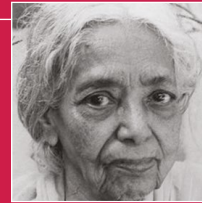




**Hilde Mangold, 1898-1924**

**Embryologist**

Inspired by the famous embryologist Hans Spermann, she gained a PhD in zoology for her thesis **Induction of Embryonic Primordia by Implantation of Organizers from a Different Species**. She tragically died shortly afterwards, but her research was central to Spermann winning the 1935 Nobel Prize in Physiology or Medicine.



**Janaki Ammal, 1897-1984**

**Botanist**

Born in Madras, **she was the first woman to gain a PhD in botany in the USA**. Throughout her career, she conducted research in cytogenetics and phytogeography, collecting numerous plants of medicinal and economic value.



**Grace Hopper, 1906-1992**

**Computer Scientist and U.S Navy Rear Admiral**

After gaining a PhD in mathematics and physics, **she enlisted for military service in World War 2, serving in the computer programming team**. After this work, she developed the UNIVAC 1 – the first electronic computer on the market. She also wrote a language for data processors in English, creating COBOL, MATH-MATIC and FLOW-MATIC.



**Ruth Patrick, 1907-2013**

**Botanist and Limnologist**

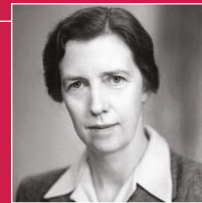
Patrick researched fossilised diatoms and **made numerous discoveries that defined the evolution of American lakes**, as well as inventing tools to take water samples. She was a passionate advocate for cleaning waters and reducing pollution.



**Helen Taussig, 1898-1986**

**Cardiologist**

Taussig became part of the paediatric team working on cardiology cases in newborns and children. **She discovered that anaemia was caused by blockages in the arteries and worked with Alfred Blalock and Vivien Thomas to develop pioneering surgery**, now known as the Blalock-Taussig-Thomas shunt.



**1900s**

**Mary Cartwright, 1900-1998**

**Mathematician**

The first woman to be awarded a first at the University of Cambridge, Cartwright **became one of the first mathematicians to study Chaos Theory**. She is best remembered today as the proponent of the Butterfly Effect.



**Virginia Apgar, 1909-1974**

**Anaesthesiologist**

As an anaesthesiologist, she was the first female specialty head at Columbia-Presbyterian Medical Center before becoming a professor specialising in reducing infant mortality. **The Apgar score is still used today to assess newborns' health, and has helped to save millions of lives.**



**Rachel Carson, 1907-1964**

**Marine Biologist**

After studying zoology and genetics at Johns Hopkins University, she worked for the US Bureau of Fisheries and wrote a number of papers on conservation, **which eventually led to a reversal of national pesticide policy and a nationwide ban on DDT.**



**Barbra McClintock, 1902-1992**

**Cytogeneticist**

Whilst studying for her PhD in botany at Cornell University, she began her life's research on maize cytogenetics. **She was the first person to visualise the X shape of chromosomes that occur during meiosis**, and her work can still be found in textbooks today.



**Cecilia Payne-Gaposchkin, 1900-1979**

**Astrophysicist**

In 1925, she became the first person to earn a PhD in astronomy with her thesis **Stellar Atmospheres: A Contribution to the Observational Study of High Temperature in the Reversing Layers of Stars**. By the end of her career, she had made more than a million observations.



**Dorothy Vaughan, 1910-2008**

**Mathematician and Human Computer**

A mathematician and programmer at the Langley Research Center, NACA, she worked on complex algorithms and calculations. **In 1949, she became the first female African-American supervisor**, and later became a head of department within NASA.



**Chien-Shiung Wu, 1912-1997**

**Physicist**

After gaining a scholarship with Caltech, she investigated radioactive tracers as a cancer treatment. During the Second World War, **she worked on the Manhattan Project, developing the process for separating uranium metal**, and later developed the Standard Model of particle physics, earning her the Wolf Prize in Physics.



**Elsie Widdowson, 1906-2000**

**Dietician**

Specialising in nutritional deficiencies in newborns, **she played a central role in the government's plan to distribute vitamins to supplement food rations during World War 2**. After the war, she helped to rehabilitate concentration camp victims before delivering revised calcium standards for breast milk substitutes.



**Maria Göeppert Mayer, 1906-1972**

**Physicist**

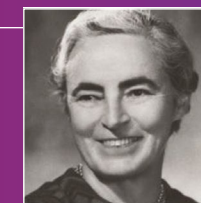
Taught mathematics by Emmy Noether, she gained a PhD in physics and moved to America. **Her development of a mathematical model for the nuclear shell structure led to her being jointly awarded the Nobel Prize in 1963** – the second woman to achieve this.



**Mary Leakey, 1913-1996**

**Paleoanthropologist**

Discovering a love of archaeology in childhood, Leakey went on numerous digs, **discovering the largest elephant tooth in Britain (1934), the first fossilised skull of extinct ape Proconsul (1959) and a Zinianthropus skull (1959)**. In total, she discovered 15 new species.



**Anna Jane Harrison, 1912-1998**

**Chemist**

During World War 2, she conducted research on toxic smoke, contributing to the development of smoke detection kits for troops. **In 1945, she became a professor researching the structure of organic compounds, and in 1978 became the first female President of the American Chemical Society.**





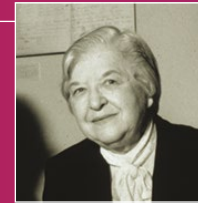
**Katherine G. Johnson, 1918-Present,  
Physicist, Mathematician at NASA**

As a research mathematician for NACA (the predecessor of NASA), **she calculated the trajectory for Alan Shepard, the first American in space.** She also calculated the launch window for the 1961 Mercury mission and manually verified the computer's calculations.



**Hedy Lamarr, 1914-2000  
Hollywood Actress and Inventor**

Better known as an actress, Lamarr was also passionate about science. **During World War 2, she and her team created a radio guidance system for torpedoes using frequency hopping technology.** This proved difficult to implement and was not introduced until the 1960s, but its principles underpin today's Bluetooth technology.



**Stephanie Kwolek, 1923-2014  
Polymer Chemist and Inventor**

After studying chemistry at university, she worked at DuPont and **went on to invent Kevlar, which has been used in tyres, ropes, bulletproof vests, sports equipment and bombproof materials.** In the week she died, the millionth bulletproof vest was sold.



**Yvonne Brill, 1924-2013  
Rocket and Jet Propulsion Engineer**

After topping her university class in chemistry and mathematics, Brill worked on satellite propulsion systems and developed the hydrazine retrojet. **She later helped to develop the TIROS system (the first weather satellite), Nova (a rocket design), Explorer 32 (the first upper-atmosphere satellite) and the Mars Observer.**



**Gertrude Belle Elion, 1918-1999  
Pharmacologist and Biochemist**

After her grandfather died of cancer, **Elion became determined to beat the disease and developed the anti-cancer drug tioguanine.** Many of her drug discoveries are still used today.



**Jane Wright, 1919-2013  
Cancer Researcher and Surgeon**

As director of the Harlem Hospital Cancer Research Center, she wanted to make chemotherapy accessible to everyone. **She was the first scientist to use folic acid antagonists to prevent the creation of cancer cells,** leading to millions of lives being saved.



**Vera Rubin, 1928-2016  
Astronomer**

At Cornell, she studied the motions of galaxies and observed the Hubble flow. After graduation, **she observed the rotation of galaxies and helped to prove the existence of dark matter.**



**Anne McLaren, 1927-2007  
Developmental Biologist**

In 1958, she published a groundbreaking paper with John D Viggers on the development and birth of mice in vitro. **Her subsequent career was in fertility, and she helped to develop IVF treatment, leading to the first 'test tube baby' in 1978.**



**Mary Jackson, 1921-2005  
Aerospace Engineer and Mathematician at NASA**

Working under Dorothy Vaughan as a mathematician and computer scientist at NACA, **she went on to become the organisation's first black female engineer. Her research focused on flight thrust, airflow and drag forces using a supersonic tunnel.**



**Rosalyn Sussman Yalow, 1921-2011  
Physicist**

After gaining a PhD and working as a teacher, she became a full-time researcher, focusing on radioactive substances for medical use. **She developed radioimmunoassay (RIA), a tracer that measures biological substances in blood,** and became the first American woman to win the Nobel Prize in Physiology or Medicine.



**Edith Flanigen, 1929-Present  
Chemist**

Working at Union Carbide, she researched molecular sieves and invented zeolite Y to refine petroleum. **During her career, she invented more than 200 synthetic substances, including synthetic emeralds used in lasers.**



**Annie Easley, 1933-2011  
Computer Scientist, Mathematician, Rocket Scientist**

Starting as a mathematician and computer engineer at NACA, **Easley developed code and analysed alternative power supplies for rockets.** She went on to become a leading member of the team that developed the Centaur rockets' software, and contributed to the 1997 flight to Saturn.



**Esther Lederberg, 1922-2006  
Microbiologist**

In 1951, she discovered the  $\lambda$  bacteriophage, also known as the Lambda Phage. **This DNA molecule aided scientific understanding of gene transcription.** She also discovered the transfer of genes between bacteria by specialised transduction and the bacterial fertility factor F (F plasmid).



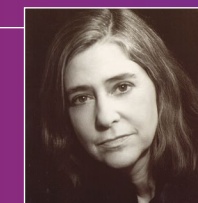
**Margherita Hack, 1922-2013  
Astrophysicist**

As Professor of Astronomy at the University of Trieste, she published astronomy papers in international journals and several books for both academic and general audiences. **In 1978, she founded L'Astronomia magazine and directed the publication Le Stelle, both of which still have large followings.**



**Patricia Bath, 1942-Present  
Ophthalmologist**

After attending medical school, **she became the first female ophthalmologist at the Jules Stein Eye Institute at UCLA and founded Prevention of Blindness in Washington.** In 1986, she pioneered cataract removal via the Laser Phaco Method, making her the first African-American woman to receive a medical patent.



**Margaret Hamilton, 1936-Present  
Computer Scientist**

After developing weather prediction software at MIT, she worked on the SAGE Project at Lincoln Lab, writing software for the first AN/FSQ-7 computer. She was then recruited by NASA and developed the in-flight software for Apollo and Skylab. However, **she is best remembered for coining the term 'software engineering'.**





**Jill Tarter, 1944-Present**  
**Astronomer**

Tarter loved stargazing with her father and went on to become a professional astronomer, **focusing on the search for extraterrestrial life**. In 1992, she became a project scientist for NASA's High Resolution Microwave Survey before becoming director of Project Phoenix.



**Jocelyn Bell Burnell, 1943-Present**  
**Astrophysicist**

After gaining a PhD in physics, she researched quasars and discovered a rotating neutron star. **In 2018, she received the Special Breakthrough Prize in Fundamental Physics**, but donated the whole of the £2.3 million award to campaigns to aid female, minority and refugee physics students.



**May-Britt Moser, 1963-Present**  
**Neuroscientist**

Alongside her husband Edward Moser and John O'Keefe, **she pioneered research into the brain's mechanism for space perception**. This gave scientists new understanding of cognitive processes and neurological conditions. In 2014, she and her colleagues shared the Nobel Prize for Physiology or Medicine.



**Tessy Thomas, 1963-Present**  
**Director General of Aeronautical Systems**

**The first woman to head up a missile project in India**, she is currently the Director-General, Aeronautical Systems of the Defence Research and Development Organization.



**Shirley Ann Jackson, 1946-Present**  
**Physicist**

Jackson became the first African-American woman to gain a PhD from MIT, then became a visiting scientist at the European Organization for Nuclear Research. **She was subsequently appointed Chairman of the US Nuclear Regulatory Commission by then-President Bill Clinton.**



**Linda Buck, 1947-Present**  
**Biologist**

At the Institute of Cancer Research, she mapped out the olfactory system, tracing odours and cell responses. **In 2004, she and colleague Richard Axel were awarded the Nobel Prize in Physiology or Medicine for identifying the genes that code more than 1,000 odour receptors.**



**Ann Makosinski, 1997-Present**  
**Student inventor and public speaker**

In 2013, **she invented the Hollow Flashlight, which uses thermoelectrics to convert temperature into light**. The device won her the Google Science Fair, and she subsequently gained an investment of \$50,000 from the Quest Climate Grant for inventions powered by body heat.



**Maryam Mirzakhani, 1977-2017**  
**Mathematician**

After becoming the first Iranian student to achieve a perfect score at the global Mathematical Olympiads, she became a research fellow at the Clay Mathematics Institute and a professor at Princeton. **She was awarded the Fields Medal for her contribution to maths**, but her stellar career was sadly cut short by cancer.

**1950s**



**Sally Ride, 1951-2012**  
**Astronaut, Physicist and Engineer**

Joining NASA in 1978, she completed astronaut training in 1979 and was the **first American woman in space four years later**. She was later a Professor of Physics at the University of California, and remains the youngest American to have gone into space.



**Elizabeth Blackburn, 1948-Present**  
**Biological Researcher**

Born into a family of physicians, Blackburn researched DNA sequencing at university and went on to study protozoans and telomeres. In 1984, **she co-discovered telomerase, the enzyme that prevents cell ageing**, and received the Nobel Prize in Physiology or Medicine in 2009.



**Mae C. Jemison, 1956-Present**  
**Astronaut, Physician and Engineer**

Entering university at 16 and graduating from medical school, she worked as a GP and Peace Corps Medical Officer before becoming an astronaut with NASA. **In 1992, she was a mission specialist aboard the Space Shuttle Endeavour, investigating weightlessness and motion sickness.**

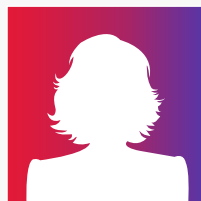


**Ameenah Gurib-Fakim, 1959-Present,**  
**Biodiversity Scientist and the Sixth President of Mauritius (2015 to 2018)**

After gaining her PhD in organic chemistry at the University of Exeter, she returned to Mauritius as a professor. **She later opened her own science centre, studying local medicinal and aromatic plants.** Gurib-Fakim then left science for politics, and was appointed President of Mauritius in 2015.



TODAY



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